

### Quiz 3

Microeconomics - EC 2106

Summer Semester 1999

Instructor: Robert McNab

Name: \_\_\_\_\_

Score: \_\_\_\_\_

**INSTRUCTIONS:** Read each question carefully before answering the question. For multiple choice and true/false questions, please choose the most accurate answer. For questions requiring you to show your work, ensure to include sufficient detail to receive full or partial credit. You will have 15 minutes to complete this 10 point quiz.

#### Part I: One Point Apiece

1. Assume that in May 1999 that the average price of Pentium III 450 MHz computer chips was \$450, with a resulting quantity demanded of 1.5 million chips. In June 1999, the average price of Pentium III 450 MHz compute chips fell to \$400, with a resulting quantity demanded of 2.0 million chips. What was the price elasticity of demand for Pentium III 450 MHz computer chips during May and June of 1999?
  - a. 0.24
  - b. 0.41
  - c. 1.35
  - d. 2.43
2. T F As the slope of the demand curve increases, the elasticity of the demand curve increases.
3. Assume that you are hired by American Airlines to provide economic consulting services to their pricing department. Previously, the department had estimated the average cross price elasticity between American Airlines and Amtrak for cross-country travel was 0.05. Based on this information, would you conclude that:
  - a. American Airlines and Amtrak were close complements
  - b. American Airlines and Amtrak were perfect substitutes
  - c. American Airlines and Amtrak were imperfect substitutes
  - d. American Airlines and Amtrak are neither substitutes or complements.
  - e. American Airlines and Amtrak are imperfect complements.
4. T F An inferior good has a negative income elasticity.

## Part II - Two Points Apiece

Assume that you have work for a small software firm in the Silicon Valley and that your company makes programs that support Windows 98 and Windows NT. Your research has led you to conclude that the price elasticity of demand for your product, WindowsFix, is 1.25, that the income elasticity of demand for your product is 0.95, and that the cross-price elasticity of your product with Windows 98 and Windows NT is -2.25.

5. The CEO of your firm wishes to generate more revenue. Currently, your firm sells WindowsFix at a price of \$125 per copy with 250,000 copies sold in the previous year. Based upon your research and assuming all else remains equal, would you recommend lowering the price of your company's product to \$110?
  
  
  
  
  
  
  
  
  
  
6. The Commerce Department Announces that personal income is expected to increase by 3% in the coming year. Based on this information, what impact would you expect this increase in personal income to have on the quantity demanded of your company's product? What impact, assuming all else remaining equal, will this have on total revenue? **Show your work**
  
  
  
  
  
  
  
  
  
  
7. Microsoft, in order to increase shareholder value, is considering increasing the price of Windows 98 and Windows NT by an average of 5%. Your CEO asks you for your opinion of the potential impact of this pricing decision and what it would mean in terms of revenue to your company. What impact, assuming all else remaining equal, will this have on total revenue? **Show your work**

### Answer Key

1. D
2. False - As the slope of the demand curve increases (becomes steeper), elasticity decreases
3. C
4. T
5. Yes - If  $E_d > 1$ , then lowering price increases total revenue
6.  $E_y = 0.95$  and the percentage increase in income = 3%, thus the percentage increase in quantity demanded will be  $0.95 * 3\% = 2.85\%$ . Total revenue will also increase by 2.85%
7.  $E_{cp} = -2.25$  and the percentage change in the price of the complement is = 5%, thus the percentage change in the completed good (your good) is  $-2.25 * 5\% = -11.25\%$ .